



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,165	07/08/2003	Prashant G. Joshi	1302-49	2726
28249	7590	06/06/2006	EXAMINER	
DILWORTH & BARRESE, LLP 333 EARLE OVINGTON BLVD. UNIONDALE, NY 11553			POULOS, SANDRA K	
			ART UNIT	PAPER NUMBER
			1714	
DATE MAILED: 06/06/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/617,165

Applicant(s)

JOSHI ET AL.

Examiner

Sandra K. Poulos

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-9, 14-17, 22-25 and 30-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-9, 14-17, 22-25 and 30-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. All outstanding rejections and objections except for those described below are overcome by applicant's amendment filed 3/20/06.

The new grounds of rejection set forth below are necessitated by applicant's amendment filed 3/20/06. In particular, claim 1 has been amended to be further limited with "wherein said hardness increasing amount is from 1 to 100 phr above the amount necessary to achieve equivalent Shore A hardness of the silica/rubber mixture as compared with the use of bis-(triethoxysilylpropyldisulfide) as the silane, and wherein the total amount of the member including any inorganic filler is above 100 phr and up to about 160 phr" and claim 3 has been amended to include formulas 1 and 2. Thus the following action is properly made **FINAL**.

Specification

2. The amendment filed 3/20/06 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The structure of formula 1 has been changed from $-G-(SiX_3)_3$ to $-G-(SiX_3)_s$ wherein $s=1,2$, or 3 . There is not support for when $s=1$ or 2 .

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Art Unit: 1714

Claims 1, 3, and 42 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1 and 42 now recite "wherein said hardness increasing amount is from 1 to 100 phr above the amount necessary to achieve equivalent Shore A hardness of the silica/rubber mixture as compared with the use of bis-(triethoxysilyl)propyldisulfide as the silane, and wherein the total amount of the member including any inorganic filler is above 100 phr and up to about 160 phr". It is the examiner's position that this phrase fails to satisfy the written description requirement of 35 USC 112, first paragraph since there does not appear to be a written description requirement of the phrase given above in the application as originally filed, *In re Wright*, 866 F.2d 422, 9 USPQ2d 1649 (Fed. Cir. 1989) and MPEP 2163. Applicant has not pointed to any portion of the specification, and examiner has not found any support for this phraseology in the specification as originally filed. While there is support for "in the case of precipitated silica, loading is increased beyond the conventional phr levels, an increase of 1 to 100 phr of silica beyond the currently used levels is desired to achieve the desired hardness improvement" in page 16, lines 5-7 of the specification, there is not support for applying the 1 to 100 phr value to any other hardness increasing member besides silica.

Furthermore, the phrase "the total amount of the member including any inorganic filler is above 100 phr and up to about 160 phr" also lacks support in the specification. Although applicant has pointed to Examples 11 and 12 for support, examiner does not find support for the range of "above 100 phr and up to about 160 phr", particularly the end point of 160 phr.

Art Unit: 1714

Claim 3 contains new matter for the reason in paragraph 3 above. There is not support for changing $-G-(SiX_3)_3$ to $-G-(SiX_3)_s$. Additionally, claim 3 contains new matter with respect to the phrase "each R is chosen independently from hydrogen, straight, cyclic, or branched alkyl that may or may not contain unsaturation, alkenyl groups, aryl groups, and aralkyl groups". The specification on page 26 recites "each R is chosen independently from hydrogen, straight, cyclic, or branched alkyl that may or may not contain unsaturation, alkenyl groups, aryl groups, and aralkyl groups, with each R containing from 1 to 18 carbon atoms". The lack of the limitation "R containing from 1 to 18 carbon atoms" in claim 3 results in the new matter because other embodiments outside of this range are not supported.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4, 6-9, 14-17, 22-25, 30-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 42 are indefinite because it is unknown if "the member" in the last line of the claim 1 should be "the at least one member" or "the member(s)" since there can be more than one member. It is not clear whether one member (with filler) must be present in an amount greater than 100 phr or if a combination of members can be present that would total to greater than 100 phr.

With respect to claim 3, a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent

Art Unit: 1714

Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 3 recites the broad recitation "c is 1 to 6", and the claim also recites "preferably 1 to 4" which is the narrower statement of the range/limitation.

The rejection with respect to claim 39 in paragraph 4 of the office action on 12/19/05 is maintained. The claim must be corrected with respect to "the resin" which remains indefinite. The claim should be "wherein the member is" or "wherein the thermoplastic resin is".

All remaining claims are rejected under 35 U.S.C. 112, second paragraph, as being dependent upon a rejected base claim.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1, 7, 8, 17, 23, 24, 33, and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by Hamada (US 5,409,969).

Hamada discloses a tread rubber composition comprising 10-150 parts silica filler, 0-150 parts carbon black (preferably present, as can be seen from the examples), and 0.2-10 parts of a silane with a structure that includes mercapto groups (col 2, lines 19-33). Nipsil VN₃ is used as the silica, and is a precipitated silica (Table 3). Additional inorganic filler are further added to the

Art Unit: 1714

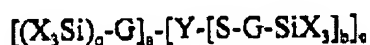
composition, including glass fiber, calcium carbonate, clay, and zinc white (col 7, lines 54-60; table 4). Although Hamada is silent with respect to an increase in hardness, it would be inherent that the composition would show increased hardness due to the presence of a high amount of silica. Thus Hamada anticipates the cited claims.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-4, 6-9, 14-17, 22-24, 33-35, 37, 39-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cruise et al (WO 99/09036) in view of Patitsas et al (WO 99/22951).

Cruise '036 discloses a rubber composition with blocked mercaptosilanes (pg 3, lines 6-14). The silanes that disclosed are represented by the following formulae:



which are further described and examples of silanes are given in pages 3-10. The blocked mercaptosilanes are useful as coupling agents for rubbers and inorganic fillers (pg 21, lines 14-15). Suitable fillers include silica (pyrogenic and precipitated), siliceous materials including clays and talc, and carbon black (pg 28, lines 9-11). Particulate, precipitated silica is also sometimes used, particularly when the silica is used in connection with a silane (pg 28, lines 11-13). A combination of silica and carbon black is utilized for reinforcing fillers for various rubber products, including treads for tires (pg 28, lines 13-15). The vulcanized rubber composition should contain a sufficient amount of filler to contribute a reasonably high modulus and high resistance to tear (pg 28, line 24; pg 29, lines 1-2). Silica, such as precipitated silica, alumina and/or aluminosilicates together with reinforcing carbon black are used in the manufacture of

Art Unit: 1714

rubber (pg 30, lines 11-21). The particulate filler (including silica and carbon black) is present in an amount of 5 to 100 (pg 26, lines 16-18).

Other additives such as tackifying resins, zinc oxide, etc. are commonly used in rubber compositions (pg 30, lines 22-24; pg 31, lines 1-6). The process of making the composition also comprises the additional steps of preparing an assembly of a tire or sulfur vulcanizable rubber with a tread comprised of the rubber composition (pg 26, line 24; pg 27, lines 1-3). A specific example using octanoylthio-1-propyltriethoxysilane is disclosed in Example 9, page 41. Example 15 (E) discloses a tire formulation comprising 3-octanoylthio-1-propyltriethoxysilane with SSBR, BR, silica, carbon black, and zinc oxide (pg 48-49).

Cruise '036 discloses the shore A hardness of the composition ranges from the upper 50's to the mid 60's which are typical of the composition hardness in applicant's specification. Thus, since Cruise '036 has the same components and similar hardness values to applicant's composition, it is inherent that the components present have caused an increase in hardness similar to applicant's.

Cruise '036 does not disclose a rubber composition with a thermoplastic resin.

Patitsas '951 discloses a rubber tire composition with a thermoplastic reinforcing agent (pg 1, lines 29-36). The thermoplastic reinforcing polymer is polyamide, nylons, polypropylene, and others listed on pages 1-2 and page 3, lines 26-31. The thermoplastic is present in an amount of 2-15 phr (pg 1, lines 26). Various additives that are disclosed are carbon black, silica, and zinc oxide (pg 3, lines 19-21).

It would have been obvious to one of ordinary skill in the art to make a formulation of rubber that combined the silane-silica-rubber mixtures by Cruise '036 and the thermoplastic reinforced rubber mixtures by Patitsas '951. The combined amount of silica, carbon black, and thermoplastic, when taken to be at a maximum, would be 115 phr, which falls within the

Art Unit: 1714

presently claimed range. One would have been motivated to incorporate the thermoplastic because Patitas '951 discloses that when thermoplastic reinforcing polymers are introducing into rubber, the tire components have improved reinforcement properties and provide a tire with improved high speed properties (pg 1, lines 16-17, 29-34). One would expect success with such a combination because both formulations are rubber comprising similar components such as silica and carbon black.

Response to Arguments

6. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection above.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 1714

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sandra K. Poulos whose telephone number is (571) 272-6428. The examiner can normally be reached on M-F 7:30-4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SKP
Sandra Poulos

Vasu Jagannathan
VASU JAGANNATHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700